

- ☐ Petition for () month(s) extension of time pursuant to 37 C.F.R. §§ 1.17 and 1.136(a). \$0.00 for the extension of time.
- ☒ No fee is required.
- ☐ Check(s) in the amount of \$0.00 is(are) enclosed.
- ☐ Please charge Deposit Account No. 02-2448 in the amount of \$0.00. This form is submitted in triplicate.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Respectfully submitted,

BIRCH, STEWART, KOLASCH & BIRCH, LLP

By Joe McKinney Muncy
Joe McKinney Muncy, #32,334

P.O. Box 747
Falls Church, VA 22040-0747
(703) 205-8000

KM/asc
0941-0306P

Attachment(s)

(Rev. 10/15/02)



#6/Response
11/8/02
PATENT
0941-0306P
RECEIVED
NOV - 7 2002
TECHNOLOGY CENTER 280C

IN THE U.S. PATENT AND TRADEMARK OFFICE

Applicant: CHEN, Shun-An et al. Conf.: 1826
Appl. No.: 09/930,971 Group: 2863
Filed: August 17, 2001 Examiner: Xiuquin Sun
For: A SYSTEM FOR DYNAMICALLY MONITORING THE
STABILITY OF SEMICONDUCTOR
MANUFACTURING EQUIPMENT

REPLY UNDER 37 C.F.R. § 1.111

Assistant Commissioner for Patents
Washington, DC 20231

November 5, 2002

Sir:

Responsive to the August 5, 2002 Office Action, the following remarks are respectfully submitted in connection with the above-identified application.

REMARKS

Claims 1-13 are now present in this application.

A certified copy of the priority document was submitted on October 2, 2001. **Notification of receipt of the certified copy and acknowledgement of the claim for priority are respectfully requested.**

Claims 1 and 2 stand rejected under 35 USC 103 as being unpatentable over MCCOWN et al., U.S. Patent 5,067,099. This rejection is respectfully traversed.

Claim 3 stands rejected under 35 USC 103 as being unpatentable over MCCOWN et al. in view of SU et al., U.S. Patent 6,260,941. This rejection is respectfully traversed.

Claims 4, 5, 8 and 9 stand rejected under 35 USC 103 as being unpatentable over MCCOWN et al. in view of LI, U.S. Patent 6,276,997. This rejection is respectfully traversed.

Claim 6 stands rejected under 35 USC 103 as being unpatentable over MCCOWN et al. in view of SANDOVAL, U.S. Patent 6,345,259. This rejection is respectfully traversed.

Claim 7 stands rejected under 35 USC 103 as being unpatentable over MCCOWN et al. in view of WEBSTER, U.S. Patent 5,505,090. This rejection is respectfully traversed.

Claim 10 stands rejected under 35 USC 103 as being unpatentable over MCCOWN et al. in view of SCHMOLKE et al., U.S. Patent 6,333,785. This rejection is respectfully traversed.

Claim 11 stands rejected under 35 USC 103 as being unpatentable over MCCOWN et al. in view of CHARLES, U.S. Patent 6,355,559. This rejection is respectfully traversed.

Claim 12 stands rejected under 35 USC 103 as being unpatentable over MCCOWN et al. in view of HINKLE, U.S. Patent 6,190,313. This rejection is respectfully traversed.

Claim 13 stands rejected under 35 USC 103 as being unpatentable over MCCOWN et al. in view of JUSZKIEWICZ et al., U.S. Patent 6,353,169. This rejection is respectfully traversed.

It is respectfully submitted that MCCOWN does not teach a process executor requesting a plurality of semi-manufacturing

products processed by the manufacturing equipment to be inspected at a first sampling rate and it is not reasonable that the "process controller" taught by MCCOWN et al. is of the same function as the process executor recited in claim 1.

The Examiner asserts that:

"MCCOWN et al. teach an apparatus and method for dynamically monitoring system performance..., comprising: a process controller (namely, a process executor) for requesting a plurality of samples processed by the system to be inspected at a first sampling rate and receiving a plurality of inspection results (col. 7, lines 28-49)"

"It is deemed that the processor controller taught by MCCOWN et al. is of the same function as the process executor recited in claim 1, in the sense that it is capable of requesting a quality inspection of an object on an assembly line at a given sampling rate."

However, it is respectfully submitted that col. 7, lines 28-49 of MCCOWN et al. instead teaches that:

"The data 150 can be collected by any known data acquisition technique. In a preferred embodiment, the data 150 is collected from the system and time-tagged by a programmable, intelligent acquisition module, such as product number AVME-9110, manufactured by Acromag. This module affords a plurality of sampling rates as well as a plurality of channels which are programmably selectable. It includes memory to store the plurality of records 154 to 158 of the event based representation 152, memory to store the collected data 150 and an on board microprocessor which enables the necessary calculations from the data 150 and the subsequent event recognition of step 102. By using a programmable intelligent data acquisition system having sufficient memory to store the event based representation 152 and the data 150, real time event recognition in step 102 is obtainable. A single Acromag acquisition module should be sufficient for most systems, however, if greater acquisition capability is needed additional modules or a different

data acquisition module with greater capacity can be utilized."

First, the term "process controller" used by the Examiner is indefinite since it is used neither by MCCOWN et al. nor in any claim of the present invention. Accordingly, it is improper to associate "process controller" with any elements taught by MCCOWN or in the claims of the present invention.

Second, in the above-quoted passage from MCCOWN, there is no teaching about a process executor requesting semi-manufactured products processed by manufacturing equipment to be inspected at a first sampling rate. MCCOWN et al. does not even use the term "process executor." MCCOWN et al. at most teaches that a data acquisition module is capable of collecting data at different sampling rates, storing and calculating the data from a monitored system.

Third, one of ordinary skill in the art would appreciate that it is rare to associate a data acquisition module with a process executor. As taught by MCCOWN et al., a data acquisition module collects, stores and calculates data from a monitored system. In contrast, in the semiconductor manufacturing which is the field of the claimed invention, a process executor is known as a device executing a manufacturing process including inspection steps.

Fourth, even if the data acquisition module is associated with the process executor despite the significant differences between

them, MCCOWN et al. does not teach that the data acquisition module is capable of requesting a quality inspection of an object on an assembly line at a given sampling rate.

Fifth, it is difficult and nearly impossible to modify the data acquisition module taught by MCCOWN et al. to act as the process executor in claim 1 of the present invention without any advanced experiment. A device requesting an inspection of an object at a rate is absolutely not obvious from a device collecting data at a rate since there is a significant difference between the data collection and inspection requests. It is not reasonable to say that a data acquisition module capable of collecting the data at different sampling rates from the monitored system is deemed to also be a process executor capable of requesting a quality inspection of an object on an assembly line at a given sampling rate.

Accordingly, it is respectfully submitted that the system for dynamically monitoring stability of manufacturing equipment disclosed in independent claim 1, as well as its dependent claims, is neither taught nor suggested by the prior art utilized by the Examiner. Accordingly, reconsideration and withdrawal of the 35 USC 103 rejections are respectfully requested.

Favorable reconsideration and an early Notice of Allowance are earnestly solicited.

In the event that any outstanding matters remain in this application, the Examiner is invited to contact the undersigned at (703) 205-8000 in the Washington, D.C. area.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

BIRCH, STEWART, KOLASCH & BIRCH, LLP

By Joe McKinney Muncy
Joe McKinney Muncy, #32,334

KM/asc
0941-0306P

P.O. Box 747
Falls Church, VA 22040-0747
(703) 205-8000

(Rev. 02/20/02)